

Title (en)  
Electromagnetic actuator

Title (de)  
Elektromagnetischer Aktor

Title (fr)  
Actionneur électromagnétique

Publication  
**EP 2600361 A1 20130605 (EN)**

Application  
**EP 11191035 A 20111129**

Priority  
EP 11191035 A 20111129

Abstract (en)

The invention relates to an electromagnetic actuator for operating at least one movable contact of a switch into a switched-on position or a switched-off position, wherein the electromagnetic actuator comprises: - a static pole body; - a movable pole body movable relative to the static pole body; - a first magnetic circuit comprising a first coil for making the movable pole body and the fixed pole body move towards each other to a switched-on position and a second coil for making the movable pole body and the fixed pole body move away from each other to a switched-off position; and - a second magnetic circuit comprising a permanent magnet and a retaining plate to keep the static pole body and the movable pole body in the switched-on position; - first spring means for urging the static pole body and the movable body away from each other; wherein the first and second magnetic circuit are arranged concentrically.

IPC 8 full level

**H01F 7/16** (2006.01); **H01H 33/666** (2006.01)

CPC (source: EP US)

**H01F 7/1615** (2013.01 - EP US); **H01H 36/00** (2013.01 - US); **H01H 51/01** (2013.01 - US); **H01H 51/22** (2013.01 - US);  
**H01H 51/2209** (2013.01 - US); **H01H 53/015** (2013.01 - US); **H01H 33/6662** (2013.01 - EP US); **H01H 2036/0086** (2013.01 - US)

Citation (applicant)

WO 2004100198 A1 20041118 - EATON ELECTRIC NV [NL], et al

Citation (search report)

- [X] JP 2002270423 A 20020920 - TOSHIBA CORP
- [X] JP 2007103243 A 20070419 - TOSHIBA CORP
- [X] JP 2007073829 A 20070322 - TOSHIBA CORP
- [X] JP 2007073580 A 20070322 - TOSHIBA CORP
- [X] EP 1826784 A2 20070829 - TOSHIBA KK [JP]
- [A] EP 2330609 A1 20110608 - ABB TECHNOLOGY AG [CH]
- [AD] WO 2004100198 A1 20041118 - EATON ELECTRIC NV [NL], et al

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)

**EP 2600361 A1 20130605**; BR 112014012995 A2 20170613; CA 2857221 A1 20130606; CN 103975397 A 20140806;  
EP 2786383 A1 20141008; EP 2786383 B1 20190102; RU 2014126416 A 20160127; US 2014327502 A1 20141106; US 9053879 B2 20150609;  
WO 2013079463 A1 20130606

DOCDB simple family (application)

**EP 11191035 A 20111129**; BR 112014012995 A 20121127; CA 2857221 A 20121127; CN 201280058889 A 20121127;  
EP 12790916 A 20121127; EP 2012073675 W 20121127; RU 2014126416 A 20121127; US 201214360676 A 20121127